

**ABSTRACT OF THE DISCLOSURE**

Photothermographic materials are designed with increased  
photospeed by chemical sensitizing the photosensitive silver halide grains with a  
5 combination of compounds. A first chemical sensitizer is a specific gold(III)-  
containing compound and a second chemical sensitizer is a sulfur-containing  
compound that is a diphenylphosphine sulfide. The molar ratio of the gold (III)-  
containing compound to the sulfur-containing compound is at least 1:1.